

Daily Lesson Plan (DLP)

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| Topic: Research companion planting. | | Day :2 |
| Grade: 4-5 | Lesson Name: Topic: Research companion planting. | Time :(60 Mins.) |

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| Topic | Which companion plants are a one-way beneficial relationship? | | |
| Weekly key words | Beneficial, symbiosis, endosymbiosis, mutualism, lavender, etc. | | |
| Seating plan | <input type="checkbox"/> Individual | <input type="checkbox"/> Pairs | Group of 4 |
| Skill development | <input checked="" type="checkbox"/> Reading <input checked="" type="checkbox"/> Writing <input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Presentation <input type="checkbox"/> Reflection <input type="checkbox"/> Illustration <input type="checkbox"/> Collaboration <input type="checkbox"/> Observation <input type="checkbox"/> Research <input type="checkbox"/> Other (Specify) | | |

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| Objectives: ➤ The students will be able to: | ➤ Learn about symbiotic planting ➤ Learn about different types of combined planting ➤ Develop knowledge about beneficial combining plantation. |
| Teaching Resources: | Multimedia/projector, laptop, YouTube, writing board, notebook, piece of paper, pen/pencil, plants, worksheet |
| Teaching Learning Strategies | |
| <p>Introduction: 5 mins.</p> <p>Initiate the lesson by asking the students to define companion plants along with examples. Take their responses and link them to the topic.</p> <p>Methodology: (20 mins.) Show the following video to the students using a projector, or multimedia. https://youtu.be/dvy0EKaMR0c</p> <p>Let the students discuss the content shown in the video. Encourage them to share some combinations mentioned in the video.</p> <p>The teacher will share and explain some beneficial combination of planting in detail.</p> <p>Symbiotic plants or the process of symbiosis is when two plants live closely together in harmony of one kind or another.</p> <p>There are four types of symbiosis:</p> <ol style="list-style-type: none"> 1. Mutualism 2. Parasitism 3. Commensalism 4. Endosymbiosis/ectosymbiosis <p>The word ‘symbiosis’ is a Greek word joined for ‘with’ and ‘living’. They describe relationship between two species or organisms that can usually be beneficial for both.</p> <p>Commensalism: is when one organism is taking benefits from the relationship, but the other is neither benefitting nor harmed by the other organism. An example of commensalism would be a spider forming a web in a tree. It doesn’t hurt trees but it benefits the spider.</p> <p>Parasitism: is when one organism benefits at the expense of the other. Such an example is an aphid feeding on the sap of a plant. The aphid benefits but the tree is worse off.</p> <p>Mutualism: The best symbiosis is mutualism—where the close relationship benefits both. In the human world, a mutualism relationship would be between a human and a pet dog. The dog offers companionship and the human offers food.</p> <p>Ectosymbiosis/Endosymbiosis: is the one where species lives inside another. Lice on your skin would be example of endosymbiosis.</p> <p>Choosing plants that can work hand in hand enhances the garden experience. It is beneficial if one can provide support to the other. It is even better if they work together and benefit each other.</p> <p>Here are some examples of symbiosis to include in your garden area.</p> <ol style="list-style-type: none"> 1. Foxgloves: | |

If you want to grow plants tall and strong in your garden with fewer chances of succumbing to disease, then foxglove is a good idea. Researchers say that when you grow foxgloves in your garden, the surrounding plants are strong with minimum chance of disease.

2. **Marigold:** it is beneficial for your garden in many ways. They not only add beauty to your garden, but they help other plants as well. Marigolds produce such a scent that attracts hoverflies. The roots of marigold also keep eelworm away. If you grow tomatoes, roses, or tomatoes, plant marigolds alongside them.
3. **Rosemary** is a delicious herb that accompanies many meals. It does wonders in the garden. If you grow it with sage, cabbage, and carrots, it will keep away cabbage moths, beetles, and flies. It also makes broccoli thrive and increases the flavors of the vegetables. But it doesn't go well with potatoes.
4. **Orange Nasturtium**
If you grow cabbage, lettuce, cucumber, tomatoes, or beans, then you may see the value in also planting orange nasturtium. This plant with orange petals attracts all those insects you don't want near your vegetables. While plant lice and whitefly are feasting on your nasturtium, they're leaving your delicious veggies alone!
5. **Lavender**
There's nothing more pleasant than wandering out into your garden and getting a beautiful aroma of lavender filling your nostrils. While the smell is one reason to plant lavender, there are many more. Lavender acts as a border against insects, repelling them away from your vulnerable plants.
6. **Tomatoes**
Even though tomatoes can be quite a tricky vegetable to grow in colder climates, it's a faithful friend to many other vegetables. Basil, asparagus, celery, parsley, onion, and carrots all love being planted near tomatoes as it helps them to thrive.

The best symbiotic plants for gardens are easier to come by than you think. There are many vegetables, flowers, and herbs out there that can have a mutually beneficial relationship.

Activity: (30 mins.) (Group Work)

The teacher will make four groups and will assign each type of symbiosis planting.

It is at the discretion of the teacher to decide the plants and their combining organism.

Observe the changes (benefits and damages) caused by such combined planting and write down in their journals.

For the activity keeping the region and growing season in mind.

Sample Growth Chart:

Target Plant: _____ Companion Plant: _____

Experimental Plot#: _____ Control Plot #: _____ Date Planted: _____

Changes/no changes: explain in detail

Wrap up (5mins.): Wind up the lesson by asking the students randomly to share their findings.

Home Assessment:

The students will do the worksheet as homework.

Worksheet (Day1)

Lesson Evaluation:

- Teacher was able to accomplish all aspects of the lesson well ☐
- Teacher was not able to do warm up activity ☐,
- develop lesson plan well ☐,
- do the learning activity ☐,
- do wrap up ☐,
- accomplish lesson objective ☐,
- manage time well ☐,
- manage class well ☐

Worksheet Day 2

Name: _____

Class: _____

Topic: Combining Planting

Subject: Science

- Write down any 3 examples of mutualism planting with their benefits.
 - Paste the pictures also
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